

Issues of Federalism in Transmission System Reliability

A Position paper of the
Electric System Reliability Task Force
Secretary of Energy Advisory Board
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Introduction

Our federal system shares institutional responsibility for ensuring North American grid reliability; this paper addresses the role of state and regional authorities. Our focus is issues of siting and non-federal price regulation that have significant reliability implications. We address both constraints and opportunities. We also acknowledge an important threshold issue: whether the grid itself retains natural monopoly features that justify a continuing government role in regulating the prices of grid services.

If, as some believe, grid construction and maintenance lack compelling natural monopoly characteristics, regulated systems of cost recovery may not long endure at state or other levels. Acknowledging this viewpoint, the Task Force nonetheless believes that this sector's monopoly aspects remain robust enough to justify improving rather than dismantling price regulation. And we are concerned that state and federal regulation is not doing enough to promote and shape sound investments in grid reliability.¹ We also support an increased role for regional institutions that can help states resolve issues that transcend their individual boundaries.

Our paper is organized in four sections below. In section I, we begin with a critical review of state and local responsibility for transmission siting and evaluation of transmission alternatives. In section II, we then explore state roles in cost recovery and incentives for transmission enhancements, including but not limited to new transmission. The third section addresses states' participation in existing regional reliability organizations. The final section is a summary of the papers recommendations.

Section I - Responsibility for Siting and Evaluation of Transmission Alternatives

State governments have historically had authority over the siting of transmission facilities and have provided the right of eminent domain to utilities where necessary. Frequently, state processes for review include comprehensive evaluations of alternatives to utility-proposed solutions for relieving transmission constraints. In many states siting authority has been shared with local governments.

¹ The Task Force recognizes that in many cases the costs of needed transmission improvements can be directly related to the construction of new generation facilities. In these cases, regulators may assign the costs of needed transmission improvements to the new generator. However, there also are instances where transmission improvements are needed to assure continued reliability in the face of growing regional loads or retirement of generation facilities. It is this latter situation which is the focus of this paper, although many of the issues relating to the siting of regional transmission facilities apply to the former situation as well.

As noted in the Task Force's paper² on Independent System Operators (ISOs), electric systems are becoming more regional in character. The reliability benefits of transmission enhancements can benefit many states, not just those where the facilities are sited. In evaluating proposals for transmission improvements, it is difficult for many states to balance the local impacts with regional benefits. Further complicating the review of proposed transmission facilities is the fact that non-transmission alternatives may be proposed by a variety of entities not subject to the same regulatory reviews.

The Task Force believes there is an increasing need for a regional mechanism to evaluate transmission enhancement alternatives and siting, provided that creating such a mechanism does not create an unwanted new layer of regulation. The Task Force believes that, through creative cooperation, states could improve today's regulatory machinery. Regional siting issues could be effectively addressed by voluntary interstate initiatives focused on transmission enhancement needs, in which states would combine multiple siting and other authorities within one Regional Regulatory Agency (RRA).

The Task Force supports the establishment of RRAs if federal legislation would:

- establish criteria that must be met by the RRA;
- authorize the Federal Energy Regulatory Commission (FERC) to approve an RRA once the FERC certifies that the RRA meets the criteria;
- authorize the FERC to give deference, where appropriate, to approved RRAs;
- specify that the FERC has regulatory oversight over RRAs in all matters except siting; and
- require that RRA member states relinquish jurisdiction over any issue addressed by an RRA and assure that no state have veto power over any decision of the RRA.

The Task Force believes, where RRAs are created by the states, their proceedings should replace otherwise applicable state and local reviews. States should not have veto power over any aspect of any RRA decision or order. Congress could help by providing advance approval and incentives for this form of interstate cooperation. The Task Force holds as a basic tenet that there be no additional layer of regulation.

States should have flexibility in organizing such initiatives. For example, an RRA could be a new, permanent regulatory body with board members appointed by the states or a temporary, specialized authority staffed by the very state agencies whose powers were being integrated for a specific purpose.

RRAs also could improve regional participation in regulatory proceedings before the Federal Energy Regulatory Commission (FERC). Where ISO³ and RRA boundaries are concurrent the FERC should establish criteria for delegating some of its regulatory authority over the ISO to the

² *The Characteristics of the Independent System Operator*, Task Force on Electric System Reliability, March 10, 1998.

³ See the Task Force's paper *The Characteristics of the Independent System Operator*, March 1998, for a description of ISOs.

RRA.⁴ The FERC could be expected to accord substantial weight to any consensus RRA recommendations.

RRAs would be an especially useful mechanism for regional transmission planning. Regional transmission enhancements could emerge under RRAs through at least two approaches:

- One would rely on transmission price signals to elicit investments in grid enhancement and congestion relief; no grid-monopoly revenues would be allocated for these purposes.
- Where regulators elect instead to include in captive customers' rates the costs of long-term investments in grid enhancement and congestion relief, this approach could include a competitive "open season" to allocating funds, with bidders evaluated on the basis of their capacity to meet reliability standards at the lowest life-cycle costs. Potential bidders should include, but not be limited to, sponsors of new transmission lines, upgrades of existing transmission lines, new transmission control equipment, demand-side management, distributed generation, or load-side management. The ISO could evaluate the response bids to determine if they would relieve the potential transmission constraint. Those determined to meet this criteria could then be referred to the RRA. The RRA could evaluate the referred bids and select a winning bid based on cost, environmental impacts, use of resources, and any other criteria that is consistent with regional policy objectives. As part of the selection process, the RRA could grant the winner all necessary state approvals including siting permits and the right of eminent domain.

The attraction for states of RRAs would be greater influence over pricing decisions, compared to a FERC-dominated system, coupled with reduced likelihood that multi-state benefits would be sacrificed to parochial concerns. Other stakeholders would get streamlined rather than duplicative regulation. And the nation would gain by expediting cost-effective multi-state transmission enhancements.

The Task Force recommends exploring formation of RRAs to provide an institutional focus on interstate transmission enhancement needs, the avoidance of increased regulatory burdens and the replacement of multiple siting and other authorities with single regional siting authorities which are not subject to any state veto.

Section II - Rate Making Issues Associated With The Expansion Of The Transmission System

Transmission issues have become some of the most controversial matters facing the electric industry today. If the demand for transmission service grows as some predict, there will be an increasing strain on many transmission systems. Accordingly, transmission owners will be forced to improve existing facilities or attempt to build new facilities if they are to maintain the required level of reliability and to accommodate requests for firm transmission service. The

⁴ Authority for the FERC to delegate some of its regulatory authority to an RRA would be included in federal legislation that establishes RRAs.

question of who should pay for such transmission improvements is important and will be the source of great tension and dispute among the various interested parties and a potentially serious hindrance to efficient expansion of the transmission system. It is imperative, therefore, that state and federal transmission pricing and cost allocation be coordinated and consistent.

The concerns of state commissions regarding protection of jurisdictional customers deserve special attention given the pivotal role that the states play in transmission siting and construction. Typically, electric utilities have a legal obligation to serve their franchise (retail) customers at the lowest reasonable cost and transmission facilities are predominately used to satisfy this requirement. Moreover, retail customers have traditionally accounted for 85-95 percent of a utility's revenues, and thus have borne a great deal of the cost burden associated with the transmission system. Therefore, there is good reason for state commissions to be concerned about the allocation of costs for transmission improvements and the impact on retail customers.

The states generally have authority over the siting and construction of new transmission facilities. A state commission may be forced to choose between its obligations regarding the siting and construction of transmission facilities and its obligations to ensure an adequate and reliable supply of power at the lowest reasonable cost to retail customers. Failure to provide the state commissions with sufficient comfort that their jurisdictional customers are adequately protected could result in a refusal by states to approve the construction of additional transmission facilities or the inclusion of associated costs in retail rates. Forcing state commissions to approve transmission construction that does not result in local benefits commensurate with increased cost to local customers would infringe on the jurisdiction of the states and would be strongly resisted. However, allowing one state to refuse to approve an enhancement that benefits customers in another state may infringe on interstate commerce. Such conflicts with the state commissions would not further the FERC's goal of promoting competition in the generation arena.

Assuming that it would otherwise be economical to build a transmission line to accommodate a request for firm transmission service, the certification, siting, and eminent domain requirements in some states may impede, if not prevent, the construction of the transmission line. In some states, only the local benefits of the line are measured. For a multi-state project, a utility might not be able to show that the local benefits of the line outweigh the local costs. This would be especially true if the line was built solely or primarily to transmit power for out-of-state entities. In particular, the states will likely deny certification of new transmission lines if local customers are not properly protected from economic harm. Fair and proper allocation of costs⁵ among users will lessen the likelihood of states denying permission to construct new transmission facilities to accommodate firm transmission service on the basis that retail customers would be economically harmed (i.e., siting/certification decisions would be made independent of economic issues).

If a transmission owner is required to build transmission facilities because of an order by the FERC or because the transmission system is being used without compensation (loop flows), there will likely be under recovery of the costs of the new investment. In the first case, there will be under recovery if the costs of additions are not part of the rates in retail jurisdiction (due to denial of rate treatment by the states or due to an overall rate freeze on vertically integrated companies in a

⁵ The Task Force is not advocating any specific cost-allocation methodology.

"phase-in" of retail competition). In the second case, there will be under recovery in the retail jurisdiction for the same reasons discussed above if FERC policy continues to ignore actual flows and allows transmission customers to select a contract path between the generation source and the load. In an interconnected network, the loading of transmission facilities is not determined by contracts or regulatory requirements defining the service to be provided. Rather, it is determined by the location of the power sources, the loads, and the electrical characteristics of the network. In most cases, the contract path selected by the transmission customer will have no relationship to the transmission facilities actually used to provide the service. Any pricing policy that does not recognize the actual flows and facilities used by a transaction will result in cross subsidization between customers and discourage additional investment in transmission facilities.

These factors indicate a need to have transmission treated separately for rate-making purposes. One solution is provided by the institution of ISO regional transmission tariffs whereby all parties benefiting from the new construction (not solely the customers served by the company building the new transmission assets) help pay for the new construction. In addition, regional tariffs will internalize many loop-flows, will provide revenue recovery to transmission owners, and should support pricing mechanisms that promote market-based alternatives to transmission construction.

New transmission investments (and other incremental costs) should be included in annual rate adjustments (in retail and wholesale jurisdictions) to ensure that transmission owners have an opportunity to recover transmission costs and to provide transmission owners with an incentive to invest in transmission improvements.

RRAs should ensure that customers have access to alternatives to transmission investment including distributed generation and demand-side management to address reliability concerns. RRAs should also ensure that the marketplace and the RRA's standards and processes enable rational choices between those alternatives.

Transmission rates must include a rate of return that reflects the risks associated with cost recovery in the provision of transmission service. These risks may include, but are not limited to, the following: the forecasting of load growth in each locality, the estimation of future economic dispatch of existing generating units, the forecasting of the location of future generating units on its system as well as surrounding systems, the ability to construct new transmission facilities, and the possibility that the facilities will not adequately support the transaction for the length of the transmission service contract. If transmission investors are not allowed to earn a return on equity commensurate with the risks associated with the provision of transmission service, transmission owners will have little incentive to invest additional capital in the transmission system. This could harm reliability by increasing transmission line loadings to contingency limits and reducing the transmission reserve margin in the system.

RRAs could propose a regional transmission pricing method that meets FERC guidelines and sends the appropriate signals to generating customers and transmission owners within the region. Typically, these arrangements have included some form of charge for base revenue requirements plus pricing signals to encourage the optimal location of generation. The arrangements have also typically included a phase-in to transmission cost equalization to those customers who will be responsible for paying the base revenue requirements (loads located within the region plus, in some instances, firm transmission customers who transmit through the region).

The pricing method would be arrived at through negotiations between the states and other interested parties subject to FERC approval. Parties external to the region who use the region's facilities should be required to pay for use of the region's facilities based on their impact on those facilities.

In any pricing method, the "seams" issues present the most difficult questions and so called "pancaking" still results as transactions cross multiple regions. Transmission pricing could send signals to appropriately locate new generation within the region. Minimum signals will be provided to generators who locate outside of the borders of the region.⁶ The "seams" issues will be difficult but can be addressed by coordinating planning studies between transmission regions as is now done between transmission-owning companies.

The Task Force is concerned that uncertainty about who will pay for new transmission investments will be a major disincentive to undertaking those investments. In particular, it is imperative that state and federal transmission pricing and cost allocation be coordinated and consistent. The Task Force recommends that the FERC undertake an initiative to address these concerns.

The Task Force recommends that RRAs ensure that customers have access to alternatives to transmission investment including distributed generation and demand-side management to address reliability concerns and that the marketplace and the RRA's standards and processes enable rational choices between those alternatives.

Section III - State Participation in the National Self Regulating Reliability Organization (SRRO) and Regional Reliability Organizations (RROs)

As discussed in the Task Force paper on the SRRO⁷, the SRRO and RRO governing boards

⁶ A possible - but radical - solution to these issues of parallel flows would be to convert all inter-regional transmission connections to DC ties or to install FACTS devices on the ties between regions. This solution would encourage the formation of large transmission regions (to internalize as many of the constraints as practical) and would solve the "seams" issues. This solution could also provide a competitive market for the provision of transmission services between transmission regions. States would be incented to join a transmission region based on the perceived advantages to their constituents (citizens). This solution does not require a state to be entirely within one region. The state could be divided on the basis of electrical or economic considerations with one part of a state in one transmission region (market area) and another part(s) could be in another region(s). An example might be Montana - with the eastern portion being in a region of the eastern interconnection and the western portion being in a transmission region in the western interconnection.

Short of a major change as outlined above, we will continue to wrestle with loop-flow issues, attributing incremental costs with incremental causes and other issues that seem to be beyond the grasp of current thinking to resolve.

⁷ *Maintaining Bulk-Power Reliability Through Use of a Self-Regulating Organization*, Task Force on Electric System Reliability, November 1997.

might include stakeholder seats or independent seats or both. Regardless of the structure, the Task Force believes that states should be represented in the process of nominating and voting for board members. State and federal governments should have non-voting (ex-officio) representation at all board meetings. States would participate in the selection of board members for a particular RRO only if the state was within that region. The board compositions and voting and nomination rules should be addressed by the FERC when it reviews the SRRO for approval.

The Task Force recommends that the FERC, when reviewing the SRRO for approval and when reviewing any agreement between the SRRO and an RRO, assure opportunity for state and federal government representation at governing board meetings and appropriate state representation in the process of nominating and voting for board members.

Section IV - Summary of Task Force Recommendations

The Task Force recommends:

- 1) Exploring formation of RRAs to provide an institutional focus on interstate transmission enhancement needs, the avoidance of increased regulatory burdens and the replacement of multiple siting and other authorities with single regional siting authorities which are not subject to any state veto.
- 2) That the FERC undertake an initiative to address uncertainty about who will pay for transmission enhancements and to assure that state and federal transmission pricing and cost allocation are coordinated and consistent.
- 3) That RRAs ensure that customers have access to alternatives to transmission investment including distributed generation and demand-side management to address reliability concerns and that the marketplace and the RRA's standards and processes enable rational choices between those alternatives.
- 4) That the FERC, when reviewing the SRRO for approval and when reviewing any agreement between the SRRO and an RRO, assure opportunity for state and federal government representation at governing board meetings and appropriate state representation in the process of nominating and voting for board members.